

REMARKS

The Office Action mailed May 11, 2004 has been received and reviewed. Claims 1-13 and 16-38 are in the case. Claims 1-2, 4-7, 9-11, 13, 16-24, 32, and 36-38 stand rejected under 35 U.S.C. §102(b). Claims 25-29 and 33-35 stand rejected under 35 U.S.C. §103(a). Claims 3, 8, 12, and 30-31 have been deemed to contain allowable subject matter.

By this amendment, claim 25 has been cancelled. For the reasons set forth below, claims 1-13, 16-24, and 26-38 are believed to be in condition for immediate allowance. Favorable reconsideration of the application in view of the following remarks, is therefore respectfully requested.

Objection to the Drawings

The Office Action asserts that the drawings fail to show the embodiments recited in claims 31 and 31. By this amendment, claims 30 and 31 have been amended to recited subject matter shown in Figure 12. Reconsideration is respectfully requested.

Objection to the Claims

The Office Action objects to various informalities in the claims. By the present amendment, claims 4, 21, and 31 have been amended as suggested by the examiner. Claims 10, 23, and 38 have not been amended, as Applicant believes they read properly in their current form. Reconsideration is respectfully requested.

Rejection of Claims 1-2, 4-7, 9-11, 13, 16, 17, 21-24, 32, and 36-38 Under 35 U.S.C. §102(b)

Claims 1-2, 4-7, 9-11, 13, 16, 17, 21-24, 32, and 36-38 stand rejected under 35 U.S.C. §102(b) as being anticipated by Abraham (French Patent).

For a prior art reference to anticipate, every element of the claimed invention must be identically disclosed in a single prior art reference; and those elements must be arranged or connected together in a single reference in the same way as specified in the patent claim. Because Abraham fails to disclose all of the elements of Applicant's newly amended claims, a rejection of anticipation is improper and should not be maintained.

With respect to claims 1, 10, 16, 23, and 38, Abraham fails to disclose the radially extending corrugations required by Applicant. As can be seen in Figures 4, 6, 10, 12, 14, and 19, the corrugations disclosed by Abraham are arranged as chords in parallel, not extending radially. To compensate for the inherent weakness of a parallel arrangement of corrugations, Abraham discloses two layers of corrugated material positioned at right angles with respect to one another to achieve the desired stiffness. Reconsideration is respectfully requested.

With respect to claims 2, 4-7, 9, 11, 13, 17, 21, 22, 24, 32, 36, and 37, claims that dependent from allowable base claims are allowable themselves for at least that reason. Accordingly, reconsideration is respectfully requested.

Rejection of Claims 1-2, 4-7, 9-11, 13, 16-24, 32, and 36-38 Under 35 U.S.C. §102(b)

Claims 1-2, 4-7, 9-11, 13, 16-24, 32, and 36-38 stand rejected under 35 U.S.C. §102(b) as being anticipated by Mossberg.

As stated hereinabove, for a prior art reference to anticipate, every element of the claimed invention must be identically disclosed in a single prior art reference; and those elements must be arranged or connected together in a single reference in the same way as specified in the patent claim. With respect to the newly amended claims, Mossberg does not meet this test for anticipation.

With respect to claims 1, 10, 16, 23, and 38, Mossberg does not disclose the rectangular cross section of corrugations required by Applicant. As can be seen in Figures 6 and 7, the "ribs w" of Mossberg are rounded, not rectangular. Moreover, as explained in greater detail hereinbelow, corrugations of rectangular cross section cannot be adequately formed using the swaging process disclosed by Mossberg. (Mossberg page 1, lines 90-93.) Reconsideration is respectfully requested.

With respect to claims 2, 4-7, 9, 11, 13, 17-22, 24, 32, 36, and 37, claims that dependent from allowable base claims are allowable themselves for at least that reason. Accordingly, reconsideration is respectfully requested.

Rejection of Claims 33-35 Under 35 U.S.C. §103(a)

Claims 33-35 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Abraham or Mossberg in view of Tisbo.

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. (See MPEP 2143.)

The combination of Abraham, Mossberg, and Tisbo fails to render claims 33-35 obvious because the combination fails to teach or suggest all of the claim limitations. For example, the combination does not teach or suggest a flange comprising corrugations of substantially rectangular cross section extending radially, as required by claims 33-35.

Moreover, Applicant finds no suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to combine reference teachings. For example, Abraham teaches against radially extending corrugations. Instead, Abraham teaches the use of parallel corrugations. Additionally, Mossberg teaches against the use of rectangular cross sections for corrugations. Rather, Mossberg teaches the use of shallow, rounded, hollow ribs capable of being stretched by swaging a disk of thin stock. Rectangular corrugations demand too much material to be effectively formed as taught by Mossberg. Moreover, swaging cannot be done in a way that makes a sharp corner, without tearing the swaged material. Accordingly, there is no suggestion or motivation to combine the teachings of Abraham and Mossberg.

Rejection of Claims 25-29 Under 35 U.S.C. §103(a)

Claims 25-29 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Mossberg in view of Mayhew.

As stated hereinabove, to establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art

reference (or references when combined) must teach or suggest all the claim limitations. (See MPEP 2143.)

With respect to claims 25-19, the Office Action asserts that, in view of the teachings of Mayhew, it would have been obvious to make the corrugations of Mossberg rectangular in form. However, it is well established that if a proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. (See MPEP 2143.01.) Because application of the corrugation shape of Mayhew to the device taught by Mossberg would render Mossberg unsuitable for its intended purpose, there can be no motivation or suggestion to combine. Accordingly, no prima facie case of obviousness based on Mossberg and Mayhew should be maintained.

Mossberg teaches a spool that "is very strong, durable, and inexpensive to make." (Mossberg page 1, lines 16-18.) To achieve the desired spool, Mossberg swages shallow, rounded ribs in a disk of thin stock. (Mossberg Figures 6 and 7 and page 1, lines 81-93.) The corrugations of Mayhew, on the other hand, are formed by corrugating and then bending darts in a "rectangular length of sheet metal." (Mayhew column 2, lines 6-7.)

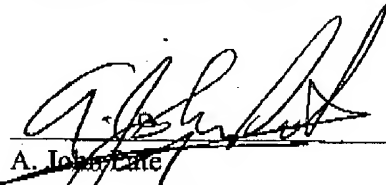
The "rectangular length" utilized by Mayhew is necessary to provide the material needed to travel the entire circuitous route demanded by rectangular corrugations. The disk taught by Mossberg has no such use or excess of material. Mossberg utilizes shallow, rounded, hollow ribs because they are the most that can be stretched (swaged) from a disk of thin stock. If a rectangular corrugation of Mayhew were formed in the disk of Mossberg, the disk of Mossberg would tear, rendering it

unsatisfactory for its intended purpose. Accordingly, there is no motivation or suggestion to combine Mossberg and Mayhew. Reconsideration is respectfully requested.

In the event that the examiner finds any remaining impediment to the prompt allowance of any of these claims, which could be clarified in a telephone conference, the examiner is respectfully urged to initiate the same with the undersigned.

DATED this 11th day of August, 2004.

Respectfully submitted,


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